Tropes as Character-Grounders

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ABSTRACT
There is a largely unrecognized ambiguity concerning the nature of a trope. Disambiguation throws into relief two fundamentally different conceptions of a trope and provides two ways to understand and develop each metaphysical theory that puts tropes to use. In this paper I consider the relative merits that result from differences concerning a trope's ability to ground the character of ordinary objects. I argue that, on each conception of a trope, there are unique implications and challenges concerning character-grounding.

1. Introduction

Trope theory has it that properties are non-shareable. If two billiard balls *a* and *b* exist simultaneously, the sphericity of *a* and the sphericity of *b* are exactly similar but numerically distinct properties, or *tropes*. In characterizing an object, a trope plays the role of a character-grounder. For example, each billiard ball is spherical in virtue of having its own sphericity trope. Trope theory is a prominent theory about the existence and nature of properties. Leading defences include Williams [1953], Campbell [1990], Maurin [2002], and Ehring [2011].

However, as I show in section 2, there is a largely unrecognized ambiguity concerning the nature of a trope. Disambiguation reveals two different conceptions of a trope, each with different qualifications for doing metaphysical work. In sections 3 and 4, I consider how each type of trope fares with respect to grounding the character of objects. I argue that each faces unique implications and challenges concerning character-grounding. In the final section I summarize and contrast their relative merits.

2. Two Types of Tropes

Consider a sphericity trope. Is the trope itself spherical? If so, then it is what I call a *module* trope. If not, then it is what I call a *modifier* trope. We can illuminate the distinction by considering the catchphrase that 'tropes are particularized properties'. This *Slogan* is often used to introduce tropes by contrasting the concept of a trope with the

concept of a universal, and specifically with that of an Armstrongian, generally non-self-exemplifying, immanent universal.[1] Thus, a trope is what you get when you 'particularize' a non-self-exemplifying universal. So understood, the Slogan is ambiguous because 'particularizing' can be understood in a weak or a strong sense.

The weak way to particularize a property is simply to render it *unshareable*. Understood this way, the Slogan says that the *only* difference between tropes and non-self-exemplifying universals is that the latter are shareable and the former are not. Here, the Slogan fixes on the concept of a modifier trope: a non-shareable and non-self-exemplifying property. On this view, a billiard ball is hard in virtue of its hardness trope and spherical in virtue of its sphericity trope, but the hardness trope is not itself hard and the sphericity trope is not itself spherical. Where *O* is a spherical object and *s* is *O*'s sphericity trope, *O* is spherical but *s* is not. In this case, *s* does not confer or contribute its *own* character to *O*. Rather, *s* confers character that is somehow grounded in and produced by *s*'s own character. Put differently, a modifier trope is a non-paradigmatic source of character, a characterizer which is not itself an epitomizer. Thus, with respect to the character of the trope itself, on the modifier view a trope does not have the character that it grounds.

The second way to particularize a property is to convert it into a *propertied-particular*. In this stronger sense, 'particularizing a property' involves ascribing *objecthood* to a property. Here, particularization involves converting a shareable and singly characterizing property (an immanent universal) into a non-shareable and thinly propertied object: a module trope. So understood, the Slogan fixes on the concept of a module trope: a primitively, naturally, and thinly charactered object.[2] (Here, 'natural' character is understood in the usual, albeit programmatic, sense of 'carving nature at the joints'.) The billiard ball, for example, is hard in virtue of its hardness trope and spherical in virtue of its sphericity trope. But, on the module view, the hardness trope is itself (primitively) hard and the sphericity trope is itself (primitively) spherical. Thus, with respect to the character of the trope itself, we may say that a module trope has the character that it grounds. Note that, aside from the character that it grounds, a module trope has *no other* natural character. A sphericity module trope, for example, would seem to be spherical but *not otherwise* (naturally, non-formally) charactered.[3]

Although the modifier/module distinction is seldom recognized,[4] it seems to track and illuminate what Maurin [2014] describes as a 'choice of model for the trope', between thinking of tropes as substances and thinking of tropes as properties. As she sees it, the choice is ultimately inconsequential: '…tropes are *by their nature* such that

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[1] Instances of the Slogan fail to specify whether the relevant concept is that of a self-exemplifying or non-self-exemplifying universal. However, the broader context points to the latter. For example, self-exemplification is banned by Russell's theory of types and suggested by discussions of the Third Man Argument in Loux [1978] and Armstrong [1978].

[2] This is the view I find in Williams [1953], Campbell [1990], and Maurin [2002]. In Ehring [2011], tropes generally appear to be module tropes but they are not primitively natured; rather, a trope has the nature it does in virtue of belonging to primitively natural classes.

[3] Problems lurk concerning the *degree* to which a module trope is primitively charactered [Garcia forthcoming]. Nevertheless, it is clear that a module trope is is supposed to be *less* charactered than its bearer. Below, I assume that module tropes are merely thinly charactered. My claims apply equally to a view on which a module trope is only *relatively* thinly charactered—that is, on which it is *less* charactered than the object whose character the trope grounds.

[4] As I explain elsewhere [2015a: 133–4], I am indebted to Michael Loux for alerting me to this distinction. For reasons offered there, I use 'module trope' for what Loux [2015: 31] calls a 'troper' and I use 'modifier trope' for what Loux calls simply a 'trope'.

they can be adequately categorized *both* as a kind of property *and* as a kind of substance' [ibid.: sec. 2.1]. I disagree. Rather than representing an inconsequential choice between two ways of modelling a single kind of trope, the modifier/module distinction reveals two fundamentally different ways of thinking about the character of a trope itself—what I call *trope-level character*. As such, the distinction has a range of implications for the eligibility of tropes to do metaphysical work (see Garcia [2015a, forthcoming]). My aim in this paper is to consider how each type of trope fares in doing the specific work of character-grounding.

3. Modifier Tropes as Character-Grounders

Let's begin by considering how modifier tropes fare as character-grounders. It will be useful to compare a modifier trope to a truth-maker. Presumably, at least some truth-making is irreflexive, where a truth-maker (*verifier*) is not itself true but makes something else true (a truth-bearer). Similarly, a modifier trope is what we might call a *character-maker* in that it makes something else characterized, but is not itself characterized *in that way*. (The latter caveat is necessary because it is misleading to say that a modifier trope isn't characterized at all. For example, although it is false that a sphericality modifier trope is spherical, it is truly described as being characterized both *formally*—being a property, being self-identical, being non-shareable, etc.—and *functionally*—being a sphere-maker. Most trope theorists take the formal and functional character of a trope to be primitive—not grounded in, say, higher-order tropes.) In other words, character-making is irreflexive: if trope t is a character-maker, then t characterizes something else—some x such that $t \neq x$. Call this numerically distinct 'something else' a 'trope-bearer'. A trope-bearer is that which is characte*rized* by a trope. Thus, for example, where s is a sphericality modifier trope, s is a non-shareable non-spherical sphere-maker and s's bearer is spherical because it bears s.

Notice that character-making is a proper species of character-grounding. In general, a character-grounder is that in virtue of which something is characterized in some way. But this is consistent with the character-grounder *itself* being the something that is characterized in the relevant way. In such a case, character-grounding would be reflexive. In other words, as I construe it, character-grounding is not necessarily irreflexive.[5] Moreover, it is desirable to think of character-grounding in this way. First, it allows for character-grounding on theories that eschew properties altogether. On austere nominalism, for example, character-grounding would be reflexive in that the character-grounders are nothing other than the ordinary, thickly characterized, objects themselves (for more on austere nominalism see Carroll and Markosian [2010]). Second, it allows for a version of module trope theory on which character-grounding is merely reflexive—a view I discuss below. Accordingly, character-making is a special kind of character-grounding: it is irreflexive character-grounding, where something non-identical with the character-grounder is characterized *by* the character-grounder.

Importantly, on modifier trope theory, character-grounding must be character-making. Otherwise, modifier tropes cannot play their intended role in accounting for either of two related phenomena—what I call *thin-character* and *thick-character*.

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[5] Nothing of substance hangs on my working assumption that character-grounding is possibly reflexive. For discussion of (ir)reflexive grounding, see Schaffer [2009] and Rodriguez-Pereyra [2015].

On the one hand, there is the phenomenon of thin-character. There are entities that are at least thinly naturally charactered. (I use 'entity' as the most general count noun, a catch-all and category-neutral term for any kind of thing.) As indicated by the qualifier 'at least', thin-character by itself does not require either that there are entities that are *only* thinly charactered or that the thinly charactered entities are also *more* than thinly charactered. Rather, there is thin-character because there is at least one entity x that is (predicatively) F, where F is a non-formal and (non-conjunctive) natural property. In the case of the billiard ball, there is an x that is spherical. The latter would be a case of thin-character. I take the existence of thin-character to be a Moorean fact of the highest order.

In its role as a character-grounder, each trope is supposed to account for thin-character. For example, a sphericality trope is supposed to account for the fact that something is spherical. But if tropes are modifiers, then the sphericality trope is not itself spherical. Thus, the entity that is spherical must be something other than the sphericality trope. Hence, on modifier trope theory, character-grounding must be character-making, wherein a trope characterizes a numerically distinct entity by producing character at the object-level that is absent at the trope-level. For example, if s is a sphericality modifier trope, then there is some x such that $x \neq s$ and x is spherical in virtue of s. To put the point differently: s spherizes x.

On the other hand, there is the phenomenon of thick-character. This occurs in virtue of there being entities that are thickly naturally charactered. That is, because there is at least one entity x that is F and is G, where F and G pick out distinct natural properties.

Arguably, thick-character's existing is a Moorean fact. It is a rather compelling and pervasive feature of the manifest world. For example, where e is an electron, e is triply charactered: e has mass (0.511 MeV/c^2), e has spin ($1/2$), and e has charge ($-1e$). Closer to hand, a sheet of paper is thickly charactered. It is, say, coloured (white), extended ($210\text{mm} \times 297\text{mm} \times 0.25\text{mm}$), dense ($800$ kg/m^3), textured (smooth), and porous (to a degree that facilitates ink absorption). In some cases, an object's having a causal power is a function of its being thickly charactered. Lowe [2010: 19] observes this:

> It is partly because a spherical object is *spherical* that it has a power to roll down an inclined plane—only partly, because it doesn't have such a power unless it is also heavy and rigid, unlike a spherical soap bubble.

The object rolls in virtue of being thickly charactered—because the very same entity is spherical, rigid, and heavy.

Accounting for thick-character is a principal motivation for postulating properties. Campbell [1981: 481] calls it 'the problem of concrete individuals'. Rodriguez-Pereyra [2002: 46−9] calls it the 'Many Over One' problem and argues that it is the essence of the perennial Problem of Universals. Moreover, presumably, a property theory is necessarily true if true. Such a theory is adequate only if it can account for all possible character-related phenomena. Because of this, a property theory that fails to account for thick-character can be judged adequate only if there are non-*ad hoc* grounds for thinking that thick-character is impossible. However, even if thick-character turns out to be illusory in our world, there seem to be no grounds for ruling out the possibility of thick-character. More generally, a property theory that fails to account for thick-character either is not true in all possible worlds or is committed to the impossibility of

thick-character. For these reasons, a property theory that cannot account for thick-character suffers from a significant, if not fatal, flaw.

As above, without character-making, a sphericality modifier trope cannot account for the fact that something is spherical. Thus, *a fortiori*, without character-making, a sphericality trope, a smoothness trope, and a hardness trope cannot jointly account for the fact that a single entity is spherical, hard, and smooth. More generally, modifier tropes can account for thick-character only if they are character-makers.

Thus, to ground character—thin or thick—modifier tropes must be character-makers. This has two important implications. First, because modifier tropes must be character-makers and because character-making is irreflexive, modifier trope theory is incompatible with the eliminativist view that, strictly speaking, there are no trope-bearers (see Robb [2005] for discussion of eliminativism). Second, on modifier trope theory, character-grounding must involve more than a part-whole relation. Because a modifier trope does not have the character that it grounds, character-making must involve the *de novo* production of novel character at the bearer-level—character not present at the trope-level. But there is nothing in the concept of a part-whole relation that involves or requires this. Suppose that s is a sphericality modifier trope—a non-spherical sphere-maker, as it were. And suppose that s is a proper part of x. It trivially follows that x has what I will call *compositional* character, in that we might describe x as *being such as to have a proper part that is a sphere-maker*. But it follows neither that x is spherical nor that x is spherical in virtue of having s as a part. Indeed, even on the reasonable assumption that s exists only if there is *something* distinct from s that is made spherical by s, it doesn't follow from s's being a part of y that y is the something that is made spherical by s. Thus, character-making is not reducible to parthood, and indeed seems to be *sui generis*.

These implications bear on how modifier tropes fare as character-grounders. Here are three upshots.

First, consider the character-making required for character-grounding. This seems to be precisely the kind of *sui generis* exemplification relation that substances and properties stand in on a poly-category substance-attribute ontology. On such a view, a property-bearer is the literal subject of predication, such that a bearer is characterized (for example, spherized) by a property. According to D.C. Williams, however, trope theory is supposed to enjoy the advantage of 'dispel[ing] the ancient mystery of predication' by replacing a *sui generis* exemplification relation with an ordinary part-whole relation [1953: 11]. Unfortunately, on modifier trope theory this mystery is not dispelled. Character-grounding requires *sui generis* non-parthood character-making. Thus, with respect to its analysis of predication, modifier trope theory fails to enjoy an advantage over a realist poly-category ontology on which substances exemplify universals.

Second, on modifier trope theory, the relationship between modifier tropes and trope-bearers involves *sui generis* character-making, whereby (say) a non-spherical entity spherizes another entity. Thus, a trope-bearer is a *characterizable* kind of entity whereas a modifier trope is a *characterizing* kind of entity. It seems, then, that the difference between modifier tropes and their bearers is as significant as the difference between substances and attributes on a poly-category ontology. This suggests that modifier tropes require a poly-category ontology and, thus, that a modifier trope *bundle theory* is a non-starter.

Third, if there are trope-bearers, then understanding the relationship between tropes and trope-bearers requires understanding how trope-level character compares to

object-level (trope-bearer-level) character. Below, we will see how this issue presents the module trope theorist with an important choice. But, for modifier tropes, this matter is straightforward: there appears to be no (natural, non-formal) similarity between a modifier trope and its bearer. For example, because a sphericality modifier trope is not itself spherical, its trope-level character is exhausted in its being a sphere-maker—in its being something that spherizes something else. This, however, suggests that the concept of a modifier trope is a *functional* concept: a modifier trope is defined in terms of what it *does*, in terms of its *characterizing effects*. But specifying the role played by a modifier trope—saying what it does—is not sufficient to specify the intrinsic nature of the entity playing that role. This indeterminacy casts a shadow over modifier trope theory.

4. Module Tropes as Character-Grounders

I have argued that modifier trope theory can account for thin- and thick-character only if character-grounding involves character-making, which is *sui generis* and irreducible to parthood. On module trope theory, the situation is importantly different. Here, tropes themselves secure thin-character. Because a sphericality module trope is itself spherical, its existence accounts for the fact that something is spherical. Thus, the module view can account for thin-character without character-making and without the postulation of trope-bearers. As I explain in the final section, this is an advantage of module tropes.

But accounting for thick-character is not so simple with module tropes. To anticipate, I will argue that, on module trope theory, accounting for thick-character requires character-grounding to involve *sui generis* character-making, which may be grounded in but is irreducible to mere parthood or mere colocation (or both).

To begin, the mere existence of module tropes cannot account for thick-character. Suppose that module tropes *sphericality$_1$*, *rigidity$_1$*, and *heaviness$_1$* exist. These tropes are only thinly charactered: *sphericality$_1$* is spherical but neither heavy nor rigid, *rigidity$_1$* is rigid but neither spherical nor heavy, and *heaviness$_1$* is heavy but neither spherical nor rigid. Thus, their existence in no way suggests this:

> (TC) There is an x, such that x is spherical, rigid, and heavy.

For (TC) to be the case, there must be something other than module tropes.

Many trope theorists appeal to mereological *composition*, so let's further suppose that there are wholes composed of module tropes and that the following obtains:

> (C) There is a whole, O, composed of *sphericality$_1$*, *rigidity$_1$*, and *heaviness$_1$*.

Clearly, (C) does not entail (TC). First, there is nothing in the concept of parthood that underwrites an inference from (C) to (TC). In fact, drawing this inference would involve several violations of the compositional fallacy, each of the following form: If x (e.g. *sphericality$_1$*) is a proper part of y (O) and Fx (*sphericality$_1$* is spherical), then Fy (O is spherical). This inference pattern is fallacious because a whole need not have the properties of its proper parts: a whole composed of simples is not simple; a whole composed of a sphere and a cube is not, *per impossibile*, both spherical and cubical; etc. Thus, the fact that a spherical-thing, a rigid-thing, and a heavy-thing compose a whole does not by itself ensure that the whole is spherical, rigid, and heavy. Second, (C) says nothing about the spatial proximity of *sphericality$_1$*, *rigidity$_1$*, and *heaviness$_1$*. But if O is supposed to be spherical, rigid, and heavy in virtue of having those tropes as proper

parts, then presumably those tropes must be intimately spatially related and not, say, on different planets. Thus, taking module tropes to compose a whole will not, by itself, account for thick-character and warrant an inference from (C) to (TC).

To supply the requisite kind of spatial intimacy, suppose that we add co-location to composition. Continuing our example, suppose that this is the case:

(CC) There is a whole, O, composed of co-located tropes *sphericality*$_1$, *rigidity*$_1$, and *heaviness*$_1$.

To use a term introduced above, I will say that something is *compositionally* F if it has a proper part that is F. Because each trope mentioned in (CC) is itself thinly characterized, it follows from (CC) that O has what I will call *complex compositional* character:

(CCC) There is a whole, O, such that O has a proper part that is spherical, a proper part that is rigid, and a proper part that is heavy, where these parts are numerically distinct but co-located.

Unless wholes with co-located parts are exempt from the compositional fallacy, an inference from (CCC) to (TC) will violate the fallacy, no less than an inference from (C) to (TC) will do so. But it is hard to see how the mere co-location of a whole's parts would suffice to exempt the whole from the compositional fallacy.

To underwrite the inference from (CCC) to (TC), we need to take on board a character-inheritance principle, such as this:

(CI) If z is (at least partly) composed of x and y, where Fx, Gy, and x and y are co-located, then Fz and Gz.

If (CI) is true, however, it is *not* true in virtue of the operative concepts of co-location and mereological composition. To see why, consider a popular solution to the problem of material constitution. On the *constitution view* (or 'colocationism'), it is possible for two material objects to occupy simultaneously the same exact spatial location. Although a lump of clay (Lump) constitutes a statue (David), Lump and David are non-identical and have different properties. Lump has the property of being squashable; David does not.

Now, either Lump and David compose a whole, or they do not. If (CI) is true, however, then it is impossible that Lump and David do so, on pain of allowing for an incompossibly characterized object. For example, if Lump and David compose a whole and (CI) is true, then the object they compose is both squashable and non-squashable. Thus, (CI) rules out the possibility that Lump and David compose a whole. For similar reasons, more generally, (CI) entails that the constitution view is incompatible with universalism (unrestricted mereological composition). But it is hard to see how the concepts of co-location and composition together either rule out the possibility that Lump and David compose a whole or entail that the constitution view is incompatible with universalism. Indeed, if they *do* rule out the possibility that Lump and David compose a whole, then presumably they rule out the possibility that *any* co-located objects compose a whole. But if so, then those concepts rule out the very tropist strategy under consideration—namely, the strategy of accounting for thick-character by taking co-located module tropes to compose a whole. In sum, (CI) has implications that go beyond what the concepts of co-location and composition would warrant. Thus, if (CI) is true, it is not true simply in virtue of those concepts. By themselves, these concepts do not underwrite an inference from (CCC) to (TC).

Of course, to account for thick-character—to underwrite the inference from (CCC) to (TC)—a module trope theorist is within her rights to *take* (CI) to be true. However,

because (CI) is not true in virtue of the operative concepts of co-location and composition, taking (CI) to be true significantly expands the ideology of module trope theory. On such a theory, (CI) would be *axiomatic*. A commitment to (CI) is also significant in that, as noted above, it rules out certain seemingly coherent views about material constitution.

To avoid these further commitments, a module trope theorist might eschew thick-character altogether. I consider such a move in section 4.3. If not, however, she faces a pair of implications similar to those faced by the modifier trope theorist.

First, taking (CI) to be true amounts to holding that, as a primitive fact, a module trope is the kind of thing that brings it about that something else is charactered in the same way in which the trope is charactered. For example, $spherical ity_1$ is a spherical entity that makes something else spherical: $sphericality_1$ spherizes O. Thus, although the thick-character of an ordinary object is *grounded* in its module tropes, it cannot be *reduced* to the character of its module tropes. For example, although the thick-character of the billiard ball is grounded in its thinly charactered tropes, only the ball is thickly charactered. Thick-character appears at the object-level and not the trope-level. In this way, on module trope theory, accounting for thick-character requires character-grounding to be irreflexive and irreducible to parthood-plus-co-location. That is, character-grounding must involve *sui generis* character-making.

Second, because thick-character only appears at the object-level, module tropes must engage in *collaborative* character-making, whereby they jointly characterize a numerically distinct entity—a trope-bearer. Thus, to account for thick-character, module trope theory requires both character-making and trope-bearers. Eliminativism regarding trope-bearers is not an option.

Above, we saw that these implications gave rise to three upshots concerning how modifier tropes fare as character-grounders. The upshots for module tropes are interestingly different.

First, for either kind of trope, accounting for thick-character requires *sui generis* character-making. However, for module tropes, character-grounding involves the *re*production of trope-level character, whereas for modifier tropes it involves the *de novo* production of novel character (producing character not found at the trope-level). Perhaps, then, the sort of character-making required for module tropes is less mysterious than the sort required for modifier tropes, and, by extension, less mysterious than the sort of primitive exemplification found on a substance-attribute scheme. I leave this for the reader to decide.

Second, module tropes and their bearers differ primarily with respect to the degree to which they are charactered: the trope is *thinly* charactered whereas its bearer is *thickly* charactered (where in both cases the sort of character is natural, such as being spherical, massive, etc.). Thus, in contrast to modifier tropes, it is not implausible to deploy module tropes within a mono-category ontology.

Third, if there are trope-bearers, then understanding character-grounding requires understanding the way in which trope-level character compares to object-level character (trope-bearer-level character). Above, I noted that although this matter is straightforward on modifier trope theory—there being no natural similarity between a modifier trope and its bearer—it does suggest that the concept of a modifier trope is a functional concept. Module trope theory, however, faces a choice between two views on how trope-level character compares to object-level character. After distinguishing these views, I will discuss their merits.

Collaborative character-making requires the trope-bearer to be a numerically distinct entity that is itself charactered in virtue of its tropes. Because of this, the module trope theorist faces an important question: relative to the way in which a given module trope is charactered, in what sense is a trope-bearer charactered (in virtue of that trope)? For example, consider a sphericality module trope and its bearer. Are these entities spherical in the *same* sense? As this question suggests, on module trope theory there are two ways to think about character-making.

On the one hand, there is *univocal-character* making, where the univocity pertains to the character that is made and not to the making *per se*. In other words, this is a genuine species of character-making, and it involves the making of univocal-character in that the sense in which the trope-bearer is (made to be) charactered is the *same* sense in which its character-maker is (primitively) charactered. In its role as a character-maker, a sphericality module trope makes a (partial) replica of itself—it makes something else spherical. Thus, no equivocation is involved in attributing the same character to both the trope and its bearer. A sphericality module trope is spherical and its bearer is spherical, without any equivocation on 'spherical'. Here, character-making is replicative.

On the other hand, there is *equivocal-character* making. Again, the equivocity pertains to the character that is made. This type of character-making involves the (genuine) making of equivocal-character, in that the sense in which the trope-bearer is (made to be) charactered is *not* the same as the sense in which its character-maker is (primitively) charactered. Here, a sphericality trope is spherical and its bearer is spherical, but they are not spherical in the same sense. We equivocate when attributing 'spherical' to them.

I will now argue that the choice between univocal-character making and equivocal-character making is significant, as each view has advantages and disadvantages.

4.1 Univocal-Character Making

First consider univocal-character making. Recall that all character-making is irreflexive: if a trope is a character-maker, then it characterizes something else—a trope-bearer. For example, if s is a sphericality trope and a character-maker, then there is an x such that $x \neq s$ and x is spherical (in virtue of s). On the modifier view, s would be a non-spherical sphere-maker and x would be a spherical trope-bearer. Thus, between s and x there would be only one sphere. But on the module view there is s, the spherical sphere-maker, along with x, the spherical trope-bearer. And if the use of 'spherical' here is univocal—if character-making is univocal-character making—then the trope-bearer is spherical in the very same sense in which the character-maker is spherical. Thus, unless there is an equivocation on 'spherical', character-making yields two spheres. In other words, wherever there is a sphericality module trope that is a univocal-character maker, there are two numerically distinct spherical entities: the spherical trope and an entity which is spherical in virtue of that trope. This generalizes: if module tropes are univocal-character makers, then, wherever you have an F-ness trope, you have two numerically distinct F-things.

A similar kind of character duplication is alleged to arise on other philosophical views.[6] Consider the aforementioned constitution view. Because Lump and David are composed of the same basic material parts, a well-known problem is that of avoiding the implication that *each* weighs (say) 5.5 tons. This (alleged) character duplication is similar to the duplication that results if module tropes are univocal-character makers: there is a numerically unique sphere (a spherical trope) grounding the shape of each ordinary sphere. In this way, univocal-character making saddles module trope theory with the systematic duplication of character.

Importantly, on trope theory, ordinary objects and their tropes are supposed to be denizens of the same realm (usually taken to be the spatio-temporal realm). Thus, if module tropes are univocal-character makers, then we get character duplication within the same realm. If there is an ordinary spherical object at a certain time and place, then there is also a spherical trope at that time and place—*two spheres at the same time and place.*

This presents the module trope theorist with an important choice concerning causation. Suppose that our billiard ball is resting on a pillow. In this case, it is natural to say that the sphericality of the ball is directly causing the pillow top to have a concave shape. But if tropes are module tropes and univocal-character makers, then there are two spheres on the pillow: the sphericality trope and its bearer. Presumably, at least one of the spheres is directly responsible for the concavity of the pillow top. But which one? Or is it both?

Alternative 1. Take both spheres to be responsible. That is, more generally, take both module tropes and their bearers to play a direct causal role. This alternative is encumbered with systematic causal overdetermination. To avoid this, the module trope theorist must take one of the spheres to be causally impotent. In other words, if module tropes are univocal-character makers, then on pain of overdetermination either module tropes or their bearers are epiphenomenal.

Alternative 2. Avoid overdetermination, by taking module tropes to be epiphenomenal. Recall that, because module tropes are only thinly characterized, thick-character is an object-level phenomenon—only trope-bearers are thickly characterized. Thus, by assigning causal potency to (only) trope-bearers, this alternative has the virtue of safeguarding the causal relevance of thick-character. Unfortunately, there are two significant downsides. First, many trope theorists hold that tropes, unlike universals, are suited to play a direct role in causation and perception (Campbell [1981], Ehring [2011], and Maurin [2014]). On Alternative 2, this important advantage is lost. Second, arguably, because a modifier trope is not naturally characterized (a mass modifier trope is not massive), it is ineligible to play a direct role in causation or in perception [Garcia forthcoming]. If so, then Alternative 2 puts module tropes on a par with modifier tropes with respect to causal relevance. And, as previously noted, both modifier and module tropes require trope-bearers to account for thick character. Thus, it is unclear how Alternative 2 is significantly different from or better than modifier trope theory. Call this downside the *parity problem.*

Alternative 3. Avoid overdetermination by taking trope-bearers to be epiphenomenal. Here, module tropes are eligible to play a direct role in causation and perception—

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[6] Bailey [2012] raises a character-duplication problem for bare particulars; see Pickavance [2014] for a reply. Another example is the 'Two Many Thinkers' problem for psychological approaches to personal identity.

safeguarding the important advantage of tropes over universals that is lost on Alternative 2. However, as before, thick-character is an object-level phenomenon. Only trope-bearers are thickly charactered. Thus, if trope-bearers are epiphenomenal, then so is thick-character. That is, nothing that is thickly charactered could play a causal role. It might be possible for a number of thinly charactered entities (the module tropes) to jointly bring about an effect. But causation could not involve a thickly charactered entity bringing about an effect, whether acting as a singular cause or as a contributing one. Thus, on Alternative 3 all thickly charactered objects are ineligible to play a causal role. This would seem to impose surprising, if not unacceptable, restrictions on the nature of causation and the content of causal laws. Moreover, it is not clear that having epiphenomenal thick-character is any better than, or different from, not having thick-character at all.

Those are the respective costs of Alternatives 2 and 3. But these alternatives share a more significant problem: each seems at odds with its intended aim of taking module tropes to be univocal-character makers. Notice that each must tolerate not just epiphenomenal entities but also *naturally charactered* epiphenomenal entities, such as massive or spherical entities. Unfortunately, it is unclear how a naturally charactered entity *could* be causally impotent. Consider a mass trope. Alternatives 2 and 3 accept univocal-character making and, thus, that both the mass trope and its bearer are massive. But each alternative takes one of these massive entities to be epiphenomenal. However, it is hard to see how this is possible—unless it involves a tacit equivocation on 'massive'. Indeed, it seems that taking only one of the massive entities to be epiphenomenal makes sense only if we abandon the univocity of character attributions between module tropes and their bearers. Thus, both strategies for avoiding overdetermination by way of epiphenomenalism seem ultimately incompatible with univocal-character making. It seems, in other words, that Alternatives 2 and 3 are not genuine alternatives for univocal-character making, after all. In the next section I will consider how these alternatives fare if retooled in terms of equivocal-character making.

We've been considering module tropes in their role as character-grounders. Previously, we saw that, without collaborative and *sui generis* character-making, module tropes cannot account for thick-character. Collaborative character-making, in turn, requires a trope-bearer for tropes to characterize jointly. A trope-bearer is charactered either in the very same sense as its module trope or not. Accordingly, module tropes can be understood as either univocal-character makers or equivocal-character makers. The former involves character duplication, which forebodes causal overdetermination. This presents three choices. Alternatives 2 and 3 avoid overdetermination, but each has its disadvantages and both seem incompatible with univocal-character making. This leaves Alternative 1, which seems to offer the best and perhaps the only strategy for taking module tropes to be univocal-character makers. Unfortunately, it secures the existence and causal potency of thick-character at the price of overdetermination. Theorists choosing Alternative 1 should make peace with overdetermination or find a way to avoid overdetermination while affirming both univocal-character making and the causal potency of both module tropes and their bearers. This would require finding a plausible way to affirm—without equivocation on 'massive'—that, although a mass trope is massive and its bearer is massive, it is not the case that the effects of one are overdetermined by the other.

4.2 Equivocal-Character Making

Let's now consider how module tropes fare as equivocal-character makers. To take module tropes to be equivocal-character makers is to adopt what I call an *equivocation strategy*. This strategy aims to avoid duplication problems by denying that a trope-bearer is (naturally) charactered in the same sense as any of its tropes. Here, although a mass trope and its bearer are each massive, they are not massive in the same sense.

It is difficult to determine the prospects of this strategy. As it stands, the strategy is programmatic in that it does not identify any specific sense in which a trope is charactered relative to the sense in which its bearer is charactered. For example, the mere denial of univocity does not settle the question of the specific difference between the sense in which a module trope is massive and the sense in which its bearer is massive. Moreover, because the modifier/module distinction is relatively unappreciated, it is difficult to determine whether and when the latter question has been addressed. This makes it hard to say with confidence that any given trope theorist has deployed an equivocation strategy.

These difficulties limit how far we can go in assessing the strategy. Nevertheless, I proceed by proposing an adequacy criterion and three desiderata. As to the former, clearly, any adequate equivocation strategy will not merely deny univocity, but will also identify the specific sense in which a trope is charactered relative to the sense in which its bearer is charactered. As to the desiderata, it is desirable that a given strategy provide the needed specificity in a way that (i) avoids the character duplication problems that arise on univocal-character making, (ii) does justice to thick-character, and (iii) explains how trope-level character grounds object-level character. With the criterion and desiderata in mind, I now consider how Alternatives 2 and 3 fare if retooled as equivocation strategies.

Consider what we may call *Alternative 2′*. As with Alternative 2, we secure thick-character by allowing for character-making that is *sui generis* and collaborative, whereby module tropes jointly bring it about that their bearer is thickly charactered. And, as with Alternative 2, we avoid overdetermination by taking module tropes to be epiphenomenal. Thus, Alternative 2′ fares well on the first and second desiderata. As noted previously, Alternative 2 is vexed by the seeming incompatibility of holding *both* that a sphericality trope and its bearer are spherical in the same sense *and* that only one of these spheres is eligible to play an immediate causal role. Because Alternative 2′ takes tropes to be equivocal-character makers, it avoids this worry.

Notwithstanding these merits, it seems that, overall, Alternative 2′ is not a promising equivocation strategy. It inherits Alternative 2's first downside and exacerbates its second, the parity problem. Because Alternative 2′ takes character-making to be *sui generis*, a trope produces object-level character that is irreducible to trope-level character. For example, an object is spherical in more than the (compositional) sense of having a spherical proper part. And because character-making is equivocal, object-level character and trope-level character are qualitatively different. Thus, Alternative 2′ does little to dispel the mystery of predication. Consequently, it fails to satisfy the third desideratum and, in addition, exacerbates the parity problem because it is unclear how Alternative 2′ is different from or better than a modifier trope theory that allows for *sui generis* and collaborative character-making. Furthermore, although the view takes a trope-bearer to be spherical in virtue of having a spherical trope, the sense in which the trope is spherical is neither the same as the sense in which its bearer is spherical nor a sense that enables it

to play a direct causal role. Thus, the view falls short of identifying the specific sense in which a module trope is charactered relative to the sense in which its bearer is charactered. Thus, Alternative 2′ fares poorly on the adequacy criterion. In sum, although Alternative 2′ improves slightly on Alternative 2, overall there is little to recommend it.

4.3 Thaumatrope Theory

As a more promising approach, Alternative 3 may also be retooled as an equivocation strategy. Indeed, a developed version of this approach can be found in the work of D.C. Williams [1953]. As I read him, Williams was a module trope theorist who took tropes to be equivocal-character makers. I cannot defend this interpretation here, so those who read him differently are invited to regard what follows as a Williams-inspired view. My main interest is to discuss an equivocation strategy that meets the adequacy criterion and goes some distance towards satisfying the desiderata. Whether Williams actually deployed the strategy is less important.

By my lights, Williams takes ordinary objects to be sums of co-located module tropes. More importantly, his analysis of object-level character suggests that a trope and its bearer are not charactered in the same sense—that tropes are *not* univocal character-makers. Thus, for Williams, trope-bearers are sums of module tropes and character-grounding is not univocal-character making. This suggests the following picture. Strictly speaking, a sphericality trope is spherical but its bearer is not. Where O is a trope-bearer and *sphericality*$_1$ is a module trope, if *sphericality*$_1$ is a proper part of O, then, strictly speaking, O is not itself spherical. Rather (to use a term introduced above), O is only *compositionally* spherical: O's being 'spherical' is nothing more than O's having a proper part that is spherical. In other words, O is 'spherical' only in the *equivocal* sense of 'having a proper part that is spherical'. Here we equivocate if we attribute 'spherical' to both a trope and its bearer. Thus, more generally, a trope and its bearer are not charactered in the same sense.

This account of object-level character involves an equivocation strategy that satisfies the above adequacy criterion and the first and third desiderata. It provides a specific and positive sense in which a trope-bearer is charactered relative to its trope: the compositional sense. A trope-bearer is (say) spherical *only* in the sense that it has a spherical proper part. Thus, the account avoids the duplication of character (first desideratum) and provides a straightforward explanation of how trope-level character grounds object-level character (third desideratum).

Unfortunately, the above account satisfies the first desideratum by frustrating the second. Because a trope characterizes its bearer only compositionally, the kind of object-level character that results from collaborative character-making is only *complex compositional character*. For example, in virtue of having *sphericality*$_1$, *rigidity*$_1$, and *heaviness*$_1$ as parts, a bearer, O, has a proper part that is spherical, a proper part that is rigid, and a proper part that is heavy. But, strictly speaking, it is false that O is spherical, rigid, and heavy. However, given that module tropes are only thinly charactered, if trope-bearers have only complex compositional character, then nothing is thickly charactered.

So understood, Williams's account dispenses with thick-character. Here, thick-character is an illusion somehow produced by the intimacy (for instance, the co-location) of thinly charactered objects (module tropes). Accordingly, we may call this *Thaumatrope Theory*. (A thaumatrope is a toy that creates the illusion of thick-character. A

common thaumatrope is a disk with a picture of a bird on one side and a picture of a cage on the other. Rapidly rotating the card creates the illusion of a bird in a cage.) By taking thick-character to be illusory, Thaumatrope Theory fails to satisfy the second desideratum.

This failure is significant, for at least three reasons. First, without thick-character, it is hard to see how we can account for certain higher-level causal powers. Recall the example concerning a spherical object's power to roll down an inclined plane. As Lowe [2010: 19] suggests, the object has this power because it is *itself* spherical, heavy, and rigid. Unless the object is itself charactered in all three of these ways—unless it is thickly charactered—it is hard to see how it could have the power to roll down a plane. On Thaumatrope Theory, however, the object on the plane is spherical, heavy, and rigid only in a compositional sense. That is, strictly speaking, it is not the case that something on the plane is spherical, heavy, and rigid. Rather, there is something on the plane that has three co-located proper parts: a spherical part that is neither heavy nor rigid, a heavy part that is neither rigid nor spherical, and a rigid part that is neither spherical nor heavy. But on such a picture it is hard to see how there is anything on the plane that has the power to roll. In sum, by dispensing with thick-character, Thaumatrope Theory seems unable to account for certain higher-level powers.

Second, as before, presumably, a property theory is necessarily true if true. If so, then Thaumatrope Theory's equivocation-strategy is adequate only if it can account for all *possible* character-related phenomena. Thus, because it eschews thick-character, this strategy is adequate only if thick-character is impossible. In this way, Thaumatrope Theory involves a commitment to the impossibility of thick-character. By my lights, this marks a major weakness.

Third, as previously explained, accounting for thick-character is arguably the central motivation for postulating properties in the first place [Rodriguez-Pereyra 2002: 46−9], and trope theorists aim to account for it (see, for example, Campbell [1981: 481]). Thus, a theory on which thick-character is illusory—or even impossible—suffers a significant diminution of motivation and explanatory power.

To summarize: failing to satisfy the second desideratum saddles Thaumatrope Theory with significant disadvantages.[7] Nevertheless, it offers a natural way to deploy an equivocation strategy, one that is especially in keeping with trope bundle theories. And it offers a specific sense in which trope-bearers are charactered relative to their tropes, thus discharging the obligation incumbent on any equivocation strategy—the adequacy criterion—to do more than deny univocity. This is especially important because if the bearer of a module trope is neither univocally nor compositionally charactered, then it is unclear in what sense it could be charactered.

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[7] The above equivocation strategy could also be deployed by a realist bundle theorist who took universals to be self-exemplifying and who wished to avoid problems stemming from having both thinly charactered entities (self-exemplifying universals) and thickly charactered entities (bundles of universals). The realist could adopt a version of Thaumatrope Theory by holding that, strictly speaking, bundles of universals are not thickly charactered but have only complex compositional character. This view inherits the disadvantages noted for tropist Thaumatrope Theory. I thank an anonymous referee for drawing my attention to this.

5. Taking Stock

The modifier/module distinction reveals two views about the nature of a trope and has important implications for the eligibility of tropes to do metaphysical work. There are other considerations that bear on the relative merits of modifier tropes and module tropes (see Garcia [2015a, forthcoming]), but here I have considered how each type of trope fares as a character-grounder. On this score, I have argued that each faces unique implications and challenges.

I will conclude by summarizing and contrasting their relative merits with respect to character-grounding. Some choice points will emerge, choices that largely turn on the relative importance of two desiderata: accounting for thick-character and securing the eligibility of tropes to play a direct role in causation and perception.

As before, arguably, modifier tropes are not eligible to play a direct role in causation and in perception [Garcia forthcoming]. Thus, if securing this eligibility is non-negotiable, then module tropes are preferable to modifier tropes. However, it is unclear whether a viable module trope theory can secure this eligibility while also accounting for thick-character.

On both views, accounting for thick-character requires that (i) character-grounding is *sui generis* character-making, irreducible to parthood-plus-co-location, (ii) trope-bearers exist along with tropes, and (iii) tropes are character-makers that jointly characterize trope-bearers. These requirements suggest that modifier tropes are better suited than module tropes to account for thick-character. This is so, for two reasons. First, the existence of trope-bearers threatens to make module tropes unnecessary. A trope-bearer plays the role of that which is *characterized*. It is a subject of predication, something which is charactered (is spherical, massive, etc.). If trope-bearers exist, they play this role. But if trope-bearers play this role, then we lose a rationale for taking tropes to play it—that is, we lose a rationale for taking tropes themselves to be charactered. Thus, a trope theorist who seeks an account of thick-character has good reason to pair trope-bearers with modifier tropes rather than with module tropes. Second, the above requirements raise an important question concerning the sense in which a trope is charactered relative to the sense in which its bearer is charactered.

On modifier trope theory, the answer to the question is straightforward: there is no natural similarity between a trope and its bearer. This suggests that the concept of a modifier trope is a functional concept—a fly in the ointment, perhaps. The latter inde-terminacy and the ineligibility to play a direct causal role are two disadvantages of modifier tropes. The significance of these disadvantages is debatable, although by my lights they are not prohibitive.[8] Notwithstanding these drawbacks, modifier tropes seem to allow for a viable account of thick-character.

On module trope theory, there are two ways to answer the above question, stemming from two general ways to think about the sense in which a module trope is charactered relative to the sense in which its bearer is charactered. Taking the sense to be univocal leads to character duplication, which forebodes causal overdetermination. This threat is dodged by Alternatives 2 and 3, but each has disadvantages and both seem incompatible with univocal-character making. This leaves Alternative 1, which succeeds in securing thick-character without violating univocity, but does so at the

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[8] Towards resolving the indeterminacy, elsewhere [2015b] I propose a version of modifier trope theory—*theistic conferralism*—on which modifier tropes are identical with certain divine acts.

significant and perhaps prohibitive cost of overdetermination. On the other hand, a module trope theorist may avoid these difficulties by taking the relevant sense to be equivocal, thereby deploying an equivocation strategy. One such strategy, Alternative 2′, has little to recommend it. The most promising strategy, Thaumatrope Theory, comes at the cost of taking thick-character to be illusory. It is unclear how else to deploy an equivocation strategy and, unfortunately, a merely programmatic strategy does not solve the duplication problem but instead only labels it. Thus, a module trope theory that requires an account of thick-character seems to face a choice between either accepting overdetermination (Alternative 1) or finding an equivocation strategy that attributes more than complex compositional character to trope-bearers while avoiding problematic character duplication. I've offered reasons to doubt that a suitable equivocation strategy is in the cards.

If these assessments are apt, then a trope theorist should either accept overdetermination, or reject thick-character, or reject module tropes. Thus, if thick-character is non-negotiable, then a trope theorist should either choose module tropes at the cost of overdetermination or choose modifier tropes at the cost of giving up the eligibility of tropes to play a direct causal and perceptual role. By my lights, overdetermination is the more prohibitive cost. Thus, I take the above considerations to suggest that a trope theorist who seeks an account of thick-character would do best to go with modifier tropes.

In contrast, a trope theorist willing to do without thick-character would do best to go with module tropes. A modifier trope theorist seeking to secure any degree of character—thin or thick—requires both *sui generis* character-making and a poly-category ontology that includes trope-bearers. But a module trope theorist seeking to secure only thin-character can adopt Thaumatrope Theory and set aside both of those requirements. Thus, if an account of thick-character is not required, then choosing module tropes would seem to make for the more parsimonious view. In addition, it would secure the eligibility of tropes to play a direct role in causation and in perception. These are two *pro tanto* advantages of Thaumatrope Theory. Of course, they constitute an all-things-considered advantage only if there are no counterbalancing disadvantages in giving up on thick-character. Above, I noted several disadvantages. Whether they are counterbalancing remains to be seen.[9]

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